Chemical composition and physicochemical properties of tropical red seaweed, Gracilaria changii

Abstract

The study on the proximate composition, minerals, vitamins, carotenoids, amino acids, fatty acids profiles and some physicochemical properties of freeze dried Gracilaria changii was conducted. It was discovered that this seaweed was high in dietary fibre (64.74 ± 0.82%), low in fat (0.30 ± 0.02%) and Na/K ratio (0.12 ± 0.02). The total amino acid content was 91.90 ± 7.70% mainly essential amino acids (55.87 ± 2.15 mg g-1) which were comparable to FAO/WHO requirements. The fatty acid profiles were dominated by the polyunsaturated fatty acids particularly docosahexaenoic (48.36 ± 6.76%) which lead to low \( \omega_6/\omega_3 \), atherogenic, and thrombogenic index. The physicochemical properties of this seaweed namely the water holding and the swelling capacity were comparable to some commercial fibre rich products. This study suggested that G. changii could be potentially used as ingredients to improve nutritive value and texture of functional foods for human consumption.